

MEMORANDUM FOR: DCI

are here

Here's the collection of honors
that constitute intelligence
estimates on Sov ICBMs &c
prior to the fall of 1954.

The last ~~two~~ item and
NIE 65 are the worst.

QJ 24 Dec
(DATE)

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24 December 1957


MEMORANDUM FOR: Deputy Director for Intelligence

SUBJECT: Guided Missiles Intelligence Support
to National Planners in 1947-1954.

1. Per your request, the quality and quantity of guided missile support to the national planners has been reviewed and eight reports (summaries attached hereto) have been selected as indicative of the quality of our estimates. These are attached as Appendix I.

2. It is apparent from review of the information in Appendix I that it was not until the fall of 1954, when the first complete guided missile National Estimate (NIE 11-6-54) was issued, that intelligence began roughly to approximate our present view of what the Soviets were and would be doing in guided missiles development. There are many explanations for this startling deficiency in intelligence. The most important seems to be a rather general disbelief in the US that guided missiles would soon be a weapons system of any importance. It is a disturbing fact that despite a fair amount of evidence of Soviet interest, including active exploitation of Germans, in this field the intelligence community could not penetrate the general disbelief and apathy in the US.

3. We have considerably more confidence in our estimating capacity today but, on the basis of past performance, we had better be wary. We still have gaping holes in our factual knowledge and we must be continually alert to major advances in completely new fields. This danger will become increasingly great during the period when the Soviets are our scientific peers.

for 
HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

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TAB A	A study of the Soviet Guided Missile Programme - dated March 1949, [REDACTED] [REDACTED]	50X1 50X1
TAB B	[REDACTED] Estimate, dated May 1950	50X1
TAB C	Soviet Weapons Developments, Mid-1951 and Mid-1954, dated August 1950 (OSI 11-50)	
TAB D	Summary Estimate of Soviet Guided Missiles Capabilities, dated 12 September 1951 from the Joint Guided Missiles Intelligence Committee of the Scientific Intelligence Committee (CIA/SI 1-51)	
TAB E	Soviet Bloc Capabilities through 1957, dated December 1952 (NIE 65)	
TAB F	A Summary of Soviet Guided Missile Intelligence, dated July 1953, [REDACTED] [REDACTED]	50X1 50X1
TAB G	Soviet Bloc Capabilities through Mid-1955, dated October 1953. (Appendices to NIE 90)	
TAB H	Long range Estimate of Soviet Science and Technology 1953-68, dated June 1954 (CIA/OSI 7-54)	

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TAB A

26 December 1957

A Study of the Soviet Guided Missile Programme

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March 1949

TOP SECRET CIA#36507, March 1949

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This document reports the findings of a [redacted] team which treated the overall Soviet guided missile program, capabilities and intentions. All existing intelligence information available at the time was considered, evaluated and summarized by the joint team. The period covered in the estimates of future Soviet progress was limited to the next five years, i.e., through 1953.

Surface-to-Surface Missile Estimate - By 1952 an improved V-2 of 500 KM range might be ready for pilot production and by the end of 1952 a production program of about 700 per month might be set up. This estimate was based on an assumption that there had been no extensive progress in improving the V-2 until the summer of 1949 owing to the lack of necessary testing facilities. The production rate specified was dependent upon a diversion of gyros and electronic components from other military programs and on the assumption that no other missiles (except V-1's are simultaneously in production on a large scale.)

By 1951 a V-1 type missile could be ready for production which would be essentially the same in performance as the original German V-1 except for an increase in speed to M.75 - M.77 as a result of an improved engine.

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The Soviet objective in their immediate post World War II missile program was one of exploiting all of the German wartime missile designs, facilities and selected personnel. Principal attention was apparently devoted to the V-2 ballistic missile and to improvements thereon. These improvements involved accuracy and range characteristics and were currently short and long term in nature.

By 1949 air-to-surface missiles of the HS 293 and FX 1400 variety could be in large scale production although there is only slight evidence of Soviet interest in this field.

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TAB B
26/ December 1957

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May 1950

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TS#34614, Draft

50X1

This joint estimate concerned itself only with Soviet weapons development potential through mid-1951.

Surface-to-Surface Missiles - The Soviet by mid-1951 could employ, on a large scale, copies of the V-1 somewhat improved in range and accuracy. By mid-1951 it is estimated that the Soviet Union could employ limited numbers on the V-2 unchanged in range and accuracy.

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TAB C

26 December 1957

Soviet Weapons Development, Mid-1951 and Mid-1954

August 1950

TOP SECRET, OSI-11-50, TS#024791

This document is an OSI report, not formally concurred in by the IAC Agencies. In general, it is a consolidation of the estimates of Soviet weapons development [redacted]

50X1

[redacted] in

50X1

April-May 1950.

Surface-to-Surface Missiles - The Soviets by mid-1951 could employ, on a large scale, copies of the V-1 somewhat improved in range and accuracy. By mid-1954, improved versions of this missile could be in production. By mid-1951 the Soviet Union could employ limited numbers of the V-2 unchanged in range and accuracy. By mid-1954, an improved V-2 with a range of 300 miles could be in production.

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TAB D

24 December 1957

Summary Estimate of Soviet Guided Missiles Capabilities

Joint Guided Missiles Intelligence Committee of the Scientific Intelligence Committee

TOP SECRET CIA/SI 1-51 12 September 1951 TS#027790

This report was drafted

50X1

in March 1951. The report was based upon

50X1

information available as of August 1951. The estimates made were qualified as being based upon Soviet capabilities not upon known Soviet intentions. The Soviet missile program was described as being based on German World War II developments as a short term policy. The intelligence organizations of the Departments of the Army, Navy, and Air Force as well as the CIA participated in the preparation of this report and concur in it.

Surface-to-Surface - Cruise Type

Standard V-1 missile production could have started in 1949 and could be operational now (January 1951). A twin engine version of the V-1 capable of carrying a larger warhead at the V-1 range (130 miles) could be operational in 1953.

Surface-to-Surface - Ballistic Type

240 nautical mile range - Improved V-2 - could be in production since the end of 1950 and ready for operational use at the end of 1951.

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300 nautical mile range - Improved V-2 - could go into production at the end of 1951 and ready for operational use in 1952.

300 nautical mile range - 100/120 MT engine, 4 ton warhead - development might be completed by the end of 1955.

There is no evidence to suggest that any intercontinental missile has yet gone beyond the preliminary study stage.

Air-to-Surface

Improved versions of German HS-293 and FX1400 designs could be available for operational use in 1951. These missiles would have improved range and accuracy features. By 1955 operational air-to-surface missiles incorporating terminal homing could be available.

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TAB E

24 December 1957

Soviet Bloc Capabilities Through 1957

December 1952

TOP SECRET, NIE 65

This is the first National Intelligence Estimate which devoted any significant attention to Soviet guided missile capabilities.

Surface-to-Surface Missiles - We estimate that the Soviets have the A-4 (V-2) type missile ready for operational use now. They could have a modified version with a range of 280 nautical miles. A single stage 120 ton thrust missile with 580 nautical miles range could begin coming into operational use early in 1954. A two stage version with a range of 790 nautical miles could start operational use late in 1955. There is no intelligence to indicate a program, beyond preliminary thinking, to obtain an extremely long-range missile. A project of this type would take at least ten to fifteen years and in view of currently unsolved problems might never be completed if started.

Air-to-Surface - We estimate that the Soviets could have an advanced radar (or infrared) homing air-to-surface missile available for operational use in 1954.

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24 December 1957

A SUMMARY OF SOVIET GUIDED MISSILE INTELLIGENCE

[] CONFERENCE ON SOVIET GUIDED MISSILES, SEPTEMBER 1952

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TOP SECRET - CIA #031076, 20 July 1953

This document represents US views and estimates of present and future Soviet missile capabilities. Although this report incorporates all []

50X1

[] views which were in agreement, it can not be considered as a joint

50X1

[] view in its entirety. A complete summary of all existing intelligence on Soviet guided missile efforts is contained in the report.

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Surface to Surface - Cruise Type

Standard V-1; 5000#, 175 NM, 2000 # WH, already operational in 1952

Improved V-1; 5000#, 210 NM, 2000# WH, already operational in 1952

Twin Engine V-1; 8000#, 210 NM, 3000# WH, operational use in late 1952

Surface to Surface, Ballistic Type

Standard V-2*; 190 NM, 25 MT eng., already operational in 1952

Improved V-2*; 280 NM, 35 MT eng., already operational in 1952

Improved V-2*; 350 NM, 35 MT eng., already operational in 1952

Improved V-2*; 580 NM, 120 MT eng., operational 1955-57

* All single stage designs with gross weights progressing from 28,500#, 33,500#, 41,700# to 110,000#

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The following multi-stage designs were described but no estimate of operational dates was made because of the absence of sufficient intelligence:

790 NM; 142,500# gross wt; 120 MT first stage, 350 NM missile second stage.

1350 NM; 344,000# gross wt; 250 MT first stage, 350 NM missile second stage.

2,270 NM; 570,000# gross wt; four 120 MT first stage, one 120 MT second stage.

Air to Surface Missiles

Glide Bomb - 10 NM - already operational 1952

Glide Bomb with short underwater travel - 10 NM - already operational 1952

Gravity Bomb - four NM - already operational 1952 - above three missiles are all anti-ship missiles

V-1 - Type (adapted for air launching) - 200 NM - already operational 1952

A 15 NM air-to-surface missile incorporating TV terminal homing was estimated for limited operational use in 1953. A radar homing system for 15-20 NM glide bombs was estimated for 1954 operational use.

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26 December 1957

Appendices to NIE 90: Soviet Bloc Capabilities Through Mid-1955

October 1953

TOP SECRET, 031273

This National Estimate covered Political, Economic, and Military factors bearing on Soviet strength and included brief coverage of guided missiles.

Surface-to-Surface Missiles - A single stage ballistic missile, powered by a 120 metric ton thrust engine, could be near the prototype stage of production by 1955. The range of this missile with a one-ton warhead would be less than 900 nautical miles.

Air-to-Surface Missiles - By 1955, a high subsonic speed rocket powered glide bomb could probably become operational.

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26/December 1957

Long Range Estimate of Soviet Science and Technology 1953-1968. Part II
June 1954

TOP SECRET CIA/OSI 7-54 TS# 031839

This is an internally produced document which was completed in draft form late in 1952 and passed unofficially to the Department of Defense at that time. It contained both five year and ten to fifteen year estimates.

Surface-to-Surface Missiles - (Five year estimate) The USSR is capable of having by 1956 a pilotless aircraft powered by a turbojet engine and capable of carrying a 3,000 pound warhead approximately 500 nautical miles at 600 knots. The USSR is believed to have the capability of developing a missile similar to the German R-10, a ballistic missile designed to carry a 2,200 pound warhead 500 to 600 nautical miles. The USSR is given the capability of having some of these weapons by the end of 1956.

(Ten to Fifteen Year Estimate) It is possible the USSR could have available for operational use in 1959 a long-range pilotless aircraft type subsonic missile comparable to the US Shark. It is possible that a supersonic aircraft type missile of the Navaho type could be available by 1964 if ramjet engine development were pursued energetically. It is possible that the USSR will have by 1962 a ballistic missile similar to the German proposed R-14 (6,600 pounds warhead, 1,600 nautical miles). It is possible that a multi-stage

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ICBM carrying a warhead of 6,000 to 8,000 pounds of 5,000 nautical miles could become available by 1965-1968.

Air-to-Surface Missiles - Several air-to-surface missiles are estimated for availability at various dates throughout the period 1953-1968.

Earth Satellites - Soviet development of a satellite appears remote, but could be accomplished prior to the operational date of the ICBM.

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